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File: JPAB

Jun 9, 1987

PUB-NO: JP362127164A

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TITLE: DEVICE FOR CONTROLLING POURING RATE OF MELT

PUBN-DATE: June 9, 1987

INVENTOR-INFORMATION:

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APPL-NO: JP60265402

APPL-DATE: November 26, 1985

US-CL-CURRENT: 164/437; 505/916

INT-CL (IPC): B22D 37/00; B22D 11/10

ABSTRACT:

PURPOSE: To provide a device which can control the flow rate of a conductive melt without contact and prevents the outflow and intrusion of impurities in the title device for the conductive melt to be poured from a pouring nozzle by forming the pouring nozzle of a nonmagnetic material and providing a superconductive magnet pair so as to sandwich said nozzle.

CONSTITUTION: A molten steel is poured from a tundish 2 through the tundish nozzle 3 made of the nonmagnetic material, for example, refractory brick into a mold 4. A pair of the superconductive magnets 11a, 11b which generate the magnetic field orthogonal approximately with the flow of the molten steel flowing in the nozzle are coaxially disposed on both sides of the nozzle in sandwiching the nozzle 3. The magnets are made of superconductive wires such as NbTi and are immersed into the liquid He in a vessel 13 so as to maintain superconductivity. The spacing between the vessel 13 and an outer vessel 14 is maintained in a vacuum to decrease heat conductivity and a low temp. shielding layer 15 consisting of liquid nitrogen or liquid hydrogen is provided to prevent the intrusion of heat by radiation. The outside circumference thereof is further covered with a water-cooled heatproof plate 16 having hood heat conductivity.

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